

## Faunistic records of *Thricops* Rondani (Diptera, Muscidae) from Russia with description of two new species

### Фауна мух рода *Thricops* Rondani (Diptera, Muscidae) России с описанием двух новых видов

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**Key words:** Muscidae, *Thricops*, Russia, fauna, new species.

**Ключевые слова:** Muscidae, *Thricops*, Россия, фауна, новые виды.

**Abstract.** A list of 27 species of the genus *Thricops* Rondani (Muscidae) from Russia is given, including two new species from the North Caucasus (*Thricops tomkovichi* Vikhrev, sp.n. and *Thricops dawkinsi* Vikhrev, sp.n.). *Thricops bukowskii* (Ringdahl, 1934), *Thricops coquilletti* (Malloch, 1920) and *Thricops vaderi* Savage, 2003 are newly recorded from Russia.

**Резюме.** Приводится список 27 видов мух рода *Thricops* Rondani (Muscidae) для территории России, включающий два новых вида (*Thricops tomkovichi* Vikhrev, sp.n. and *Thricops dawkinsi* Vikhrev, sp.n.) с Северного Кавказа. Впервые отмечены для территории России такие виды как *Thricops bukowskii* (Ringdahl, 1934), *Thricops coquilletti* (Malloch, 1920) и *Thricops vaderi* Savage, 2003.

### Introduction

The genus *Thricops* Rondani inhabits boreal and temperate areas of the northern hemisphere, whilst further to the south *Thricops* is restricted to mountainous areas. Adults of *Thricops* are often found feeding on the pollen and nectar of a variety of flowers [Pont, 1993; Dlusskii, 2002]. The larvae are usually found in humus soil or under moss and are generally predaceous [Skidmore, 1985]. In its true habitats, such as mountain meadows of the Urals Mountains, *Thricops* is the dominant group and forms up to 20–70 % of the total Diptera material collected either by sweeping or by Malaise trap [Malozemov, 1997].

Of the 44 known species of *Thricops* in the world fauna, 33 species are found in the Palaearctic Region, and 22 species have been recorded from Russia [Savage, 2003].

The most complete data on the systematics and distribution of *Thricops* were given in a world revision of the genus by Jade Savage [Savage, 2003], and a

phylogenetic analysis of the genus *Thricops* is given in Savage et al. [2004]. However, the distribution records from Russia have been taken from Hennig [1962] and Pont [1986], and data on the genus in Russia is still scanty and fragmentary for a country with such vast northern territories and especially interesting mountain regions such as the Caucasus and the Altay.

Apart from papers just mentioned, there is a little further information on *Thricops* in Russia. Some faunistic data for the European part of Russia can be found in: Fedtschenko [1891], Stein [1916], Zimin and El'berg [1970], Lundström and Frey [1913], Tiensuu [1934, 1939], Frey [1940], Lobanov [1966, 1977], Yakovlev and Tobias [1992]; for Urals in: Malozemov [1992, 1997]; for Siberia in: Schnabl [1887, 1915 in Becker et al.], Veselkin [1966], Lavčiev [1971] and Sorokina [2006a, b]; for Russian Far East in: Ringdahl [1930], Sychevskaya [1978] and Petrova [1987].

### Materials and methods

To prepare this paper we examined *Thricops* material deposited in the Zoological Museum of the Moscow University, Moscow (ZMUM), in the Siberian Zoological Museum, Institute of Systematics and Ecology of Animals, Russian Academy of Sciences, Siberian Branch, Novosibirsk (SZMN), in the Zoological Institute of the Russian Academy of Sciences, St Petersburg (ZIN), in the Oxford University Museum of Natural History, Oxford, United Kingdom (OUMNH), and in the Natural History Museum, London, United Kingdom (BMNH). Material is listed with the published records given first, followed by the material studied. Records are given under the common names of the regions, which correspond with the following political divisions of Russia given in transliteration: Altay —

*Respublika Altay*; Amur area — *Amurskaya Oblast'*; Arkhangelsk — *Arkhangelskaya Oblast'*; Chelyabinsk — *Chelyabinskaya Oblast'*; Chukotka — *Chukotskiy Avtonomniy Okrug*; Kamchatka — *Kamchatskiy Kray*; Karachay-Cherkessia — *Karachayev-Cherkesskaya Respublika*; Kemerovo — *Kemerovskaya Oblast'*; Komi — *Respublika Komi*; Krasnodar — *Krasnodarskiy Kray* (included Republic of Adygeya, which is a federal subject of Russia enclosed within Krasnodar Kray); Krasnoyarsk — *Krasnoyarskiy kray*; Kurgan — *Kurganskaya Oblast'*; Kursk — *Kurskaya oblast'*; Magadan — *Magadanskaya oblast'*; Moscow — *Moskovskaya oblast'*; Murmansk — *Murmanskaya oblast'*; Nenets AO — *Nenetskiy Avtonomniy Okrug*; Nizhny Novgorod — *Nizhegorodskaya oblast'*; North Ossetia — *Respublika Severnaya Osetiya-Alaniya*; Novgorod — *Novgorodskaya Oblast'*; Novosibirsk — *Novosibirskaya Oblast'*; Sakhalin — *Sakhalinskaya oblast'*; St Petersburg — *Leningradskaya Oblast'*; Tomsk — *Tomskaya Oblast'*; Tver — *Tverskaya oblast'*; Vladimir — *Vladimirskaya Oblast'*; Yamalo-Nenets AO — *Yamalo-Nenetskiy Avtonomniy Okrug*; Yaroslavl — *Yaroslavskaya Oblast'*.

Within the two major divisions of the European and Asian parts of Russia, the regions are organized alphabetically.

The following abbreviations are used in the text below: *ac* — acrostichal setae, *dc* — dorsocentral setae, *ia* — intraalar seta, *ntp* — notopleural setae, *pprn* — postpronotal seta, *pra* — prealar seta, *spal* — supraalar seta, *a, p, d, v* — anterior, posterior, dorsal, ventral, *f1, f2, f3* — fore, mid, hind femur, *t1, t2, t3* — fore, mid, hind tibia.

## Results and discussion

### LIST OF RUSSIAN *THRICOPS* SPECIES

#### *Thricops aculeipes* (Zetterstedt, 1838)

Lundström, Frey, 1913: 16 (NW European Russia, det. Stein). Zimin, El'berg, 1970: 571 (N and NW European Russia). Pont, 1986: 64 (West Siberia). Malozemov, 1997: 77 (Ural Mts). Savage, 2003: 21.

**Material.** Europe: *Krasnodar*: Adygeya, env. Lagonaki plateau, 1830 m asl., 20–23.VIII.2009, K. Tomkovich — 1♀ (ZMUM). Asia: *Yamalo-Nenets AO*: near Labytnangi, 6–22.VIII.1974, V. Sychevskaya — 2♀♀ (ZMUM).

#### *Thricops albibalalis* (Zetterstedt, 1849)

Ringdahl, 1930: 3 (Kamchatka). Zimin, El'berg, 1970: 574 (Kamchatka). Sychevskaya, 1973: 83 (Petropavlovsk, Kamchatka). Malozemov, 1997: 77 (Ural Mts). Pont, 1986: 65 (Far East). Petrova, 1987: 89 (Far East). Savage, 2003: 27.

**Material.** Europe: *Karachay-Cherkessia*: env. Teberda, 1800 m asl., 22.VI.1982, E. Narchuk — 1♂ (ZIN). *St Petersburg*: Luga district, 03.VIII.1959, A. Stackelberg — 1♂ (ZIN). Asia: *Kamchatka*: near Petropavlovsk-Kamchatsky, 16.IX.1967, V. Sychevskaya — 1♂, 1♀ (ZIN). *Krasnoyarsk*: 70 km NW of Krasnoyarsk, 14–23.VII.2009, K. Tomkovich — 3♀♀ (ZMUM).

#### *Thricops bukowskii* (Ringdahl, 1934)

**Material.** Europe: *Karachay-Cherkessia*: env. Teberda, Teberdinsky Nat. Res., alpine meadow at 2000–2500 m asl., 29.VI–15.VII.1982, E. Narchuk — 9♂♂ (ZIN). *Krasnodar*: Adygeya, Lagonaki plateau, 11–12.VII.2008, O. Kosterin — 9♂♂, 3♀♀, 1450–1750 m asl., 16.VI.2009, K. Tomkovich — 2♂♂, 1830 m asl., 20–23.VIII.2009, K. Tomkovich — 6♂♂ (all in ZMUM).

**Remarks.** The type locality of *T. bukowskii* is the Crimea (now Ukraine); also known from Georgia and Turkey; a new record for Russia.

#### *Thricops coquilletti* (Malloch, 1920)

**Material.** Asia: *Altay*: Shebalino district, Pass Seminskii, 1748 m, 51,05° N, 85,62° E, 30.VI.2009, A.C. Pont — 2♂♂ (OUMNH, SZMN).

**Remarks.** This species was known from Nearctic Region, North Europe and Mongolia; new record for Russia.

#### *Thricops cunctans* (Meigen, 1926)

Lundström, Frey, 1913: 16 (NW European Russia, det. Stein as *T. hirsutula* Zetterstedt).

Ringdahl, 1930: 3 (Kamchatka, as *T. hirsutula*).

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*, as *T. hirsutula*). Hennig, 1962: 639 (Caucasus, Urals, Tomskaya Oblast', Altay).

Zimin, El'berg, 1970: 571 (NW European Russia, Caucasus, Urals, West Siberia, Kamchatka, as *T. hirsutula*). Lavčiev, 1971: 219 (near Pokoyniki, west shore of Lake Baikal).

Pont, 1986: 65 (N European Russia, Siberia, Far East).

Petrova, 1987: 89 (Far East, as *T. hirsutula*).

Malozemov, 1992: 93 (Pripolar Urals, Neroika mountains), 1997: 77 (Ural Mts). Savage, 2003: 47.

Sorokina, 2006a: 224 (Novosibirskaya Oblast').

**Material.** Europe: *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 6♂♂, 1♀ (ZMUM). *Karachay-Cherkessia*: env. Teberda, 1330 m asl., 22.VI–15.VII.1982, E. Narchuk — 2♂♂ (ZIN). *Komi*: Polar Ural, env. Neroika, mountain tundra at 650 m asl., 06–21.VII.1989–90, A. Malozemov — 3♂♂, 1♀ (ZIN). *Moscow*: Dmitrov district, 09.VI–03.VII.2007–09, N. Vikhrev — 21♂♂ (ZMUM). *Murmansk*: Laplandskiy Nat. Res., 19.VII–10.VIII.1975, V. Sychevskaya — 14♂♂, 13♀♀ (ZMUM). *Nenets AO*: around Narjan-Mar, forest-tundra, 8–11.VII.2008, N. Vikhrev — 3♂♂ (ZMUM). *St Petersburg*: env. St Petersburg, 10.VI–05.VIII.1931–67, A. Stackelberg — 40♂♂ (ZIN). Asia: *Altay*: Ulaganskiy district, Ioldu river, 2000 m, 50°50' N, 88°57' E, 18.VI.2005, V. Sorokina — 1♂ (SZMN); Terektskii mt. range, Bol'shoy Yaloman river, 955 m, 50°28' N, 86°19' E, 2–4.VIII.2007, V. Sorokina — 1♂ (SZMN). *Kemerovo*: Kuznetskii Alatau Nat. Reserve, Rybnoe lake, 2–6.VI.2005, D. Lopatin — 10♀♀ (SZMN). *Krasnoyarsk*: around Krasnoyarsk, 14–31.VII.2009, K. Tomkovich — 11♂♂ (ZMUM). *Novosibirsk*: Kolyvan' district, Menzelinskoe lake, 24–27.VI.1991, A. Barkalov — 2♂♂, 2♀♀ (SZMN). *Tomsk*: env. Tomsk, Kunsuk River, 10.VII.1897, Yu. Wagner — 3♂♂ (ZIN). *Yamalo-Nenets AO*: near Labytnangi, 22.VIII.1975, V. Sychevskaya — 1♂ (ZMUM).

**Remarks.** Distributed from tundra to temperate forests with a considerable proportion of conifers. In temperate forests males prefer sunny paths or glades, where they gather up to a dozen at a time on selected leaves of low vegetation.

#### *Thricops diaphanus* (Wiedemann, 1817)

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*).

Hennig, 1962: 657 (Leningradskaya Oblast', Altay, shores of Teletskoe Lake).

Zimin, El'berg, 1970: 573 (NW European Russia, Altai).

Lavčiev, 1971: 219 (Permskiy Kray, Kungur).  
 Yakovlev, Tobias, 1992: 141 (South Karelia: Petrozavodsk).  
 Reared from *Russula* spp., and parasitoids listed).  
 Malozemov, 1997: 77 (Ural Mts).  
 Pont, 1986: 66 (N European Russia, West Siberia).  
 Savage, 2003: 50.

**Material. Europe:** *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VI.2008, K. Tomkovich — 2♂♂, 2♀♀ (ZMUM). *Krasnodar*: Adygeya, env. Lagonaki plateau, 1725 m asl, 26–28.VI.2009, K. Tomkovich — 1♂, fagus forest, 950 m asl, 26–29.VIII.2009, K. Tomkovich — 1♂; near Khosta, Akhun, 24–26.X.2007, N. Vikhrev — 2♀♀ (all in ZMUM). *Moscow*: Dmitrov district, 26.VI and 30.VIII.2006–09, N. Vikhrev — 2♂♂ (ZMUM). *Murmansk*: Laplandskiy Nat. Res., 07.VII.1975, V. Sychevskaya — 1♂ (ZMUM). *St Petersburg*: Luga district, 23.VI–24.VIII.1932–57, A. Stackelberg — 13♂♂, 8♀♀ (ZIN). **Asia:** *Altay*: env. Teletskoe lake, 01.IX.1997, Silantiev — 2♂♂ (ZIN); env. Yazula, Chulyshman River, 13.VII.1935, A. Zhelokhovtsev — 1♀ (ZMUM). *Amur area*: near Zeya, 13–30.VIII.1981, A. Shatalkin — 3♂♂, 4♀♀ (ZMUM). *Kemerovo*: Kuznetskii Alatau Nat. Reserve, Rybnoe lake, 2–6.VI.2005, D. Lopatin — 4♀♀ (SZMN). *Krasnoyarsk*: 70 km NW of Krasnoyarsk, 14–23.VI.2009, K. Tomkovich — 1♀ (ZMUM). *Magadan*: Aborigen Stn, 500 m, 5–10.VIII.1990, D. Wood — 1♀ (SZMN). *Sakhalin*: Kunashir Island, Cape Ivanovskiy, 7.VII.1989, V. Zinchenko — 1♂ (SZMN); Kunashir Island, env. Tretiakovo, 21.VII.1985, S. Churkin — 2♂♂ (ZMUM).

**Remarks.** A widely distributed species, from taiga in the north to deciduous evergreen forests on the Black Sea coast in the south.

#### *Thricops foveolatus* (Zetterstedt, 1845)

Tiensuu, 1939: 252 (Terijoki [now Zelenogorsk], as *T. perpendicularis* Zetterstedt).  
 Frey, 1940: 152 (Terijoki [now Zelenogorsk], as *T. perpendicularis* Zetterstedt).  
 Zimin, El'berg, 1970: 571 (NW European Russia).  
 Lavčiev, 1971: 219 (Amurskaya Oblast', Klimoutsky, 40 km W of Slobodnyy).  
 Pont, 1986: 66 (NW European Russia, Far East).  
 Savage, 2003: 57 (Zelenogorsk).

**Material. Europe:** *Krasnodar*: Adygeya, env. Lagonaki plateau, 1725 m asl, 26–28.VI.2009, K. Tomkovich — 1♂ (ZMUM).

**Remarks.** This uncommon species was known from Great Britain, Scandinavia and North Russia (vicinity of St Petersburg); a new record for southern European Russia.

#### *Thricops furcatus* (Stein 1916)

Ringdahl, 1930: 3 (Kamchatka, as *T. melanderi* Malloch).  
 Zimin, El'berg, 1970: 574 (Kamchatka).  
 Pont, 1986: 66 (Far East).  
 Malozemov, 1992: 92, 93 (Pripolar Urals, Neroika mountain), 1997: 77 (Ural Mts).  
 Savage, 2003: 59.

**Material. Europe:** *Komi*: Polar Ural, env. Neroika, mountain tundra, 700 m asl, 06.IX.1989, A. Malozemov — 2♀♀ (ZIN). *Krasnodar*: Adygeya, env. Lagonaki plateau, 1830 m asl, 20–23.VIII.2009, K. Tomkovich — 7♂♂, 1♀ (ZMUM).

**Thricops genarum** (Zetterstedt, 1838)

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*, as *T. sundewallii* Zetterstedt).  
 Hennig, 1962: 663 (Leningradskaya Oblast', South Urals).  
 Zimin, El'berg, 1970: 574 (European Russia, South Urals, as *Alloeostylus sundewallii* Zetterstedt).  
 Lavčiev, 1971: 219 (Respublika Buryatiya, Barguzinskiy zapovednik).  
 Pont, 1986: 66 (N European Russia, Urals, East Siberia).

Malozemov, 1992: 93 (Pripolar Urals, Neroika mountain), 1997: 77 (Ural Mts).  
 Savage, 2003: 62.

**Material. Europe:** *Chelyabinsk*: S Ural near Zlatoust, 18–24.VII.2009, K. Tomkovich — 5♂♂, 1♀ (ZMUM). *Komi*: Polar Ural, env. Neroika, 500 m asl, on Umbelliferae, 24.VII.1989, A. Malozemov — 2♂♂ (ZIN). *Krasnodar*: Adygeya, env. Lagonaki plateau, 1725 m asl, 26–28.VI.2009, K. Tomkovich — 1♂, 2♀♀ (ZMUM), 1830 m asl, 20–23.VIII.2009, K. Tomkovich — 7♂♂, 9♀♀ (ZMUM). *Moscow*: Dmitrov district, 20.VI–16.VII.2007–09, N. Vikhrev — 10♂♂, 1♀ (ZMUM). **Asia:** *Altay*: Ust'-Koksa district, 28.VI.2007, O. Kosterin — 1♀ (ZMUM); Terektskiy mt. range, Bol'shoy Yaloman river, 2200–2300 m, 50°28' N, 86°19' E, 3.VIII.2007, V. Sorokina — 5♂♂, 1♀ (SZMN). *Kemerovo*: Kuznetskii Alatau Nat. Reserve, Rybnoe lake, 2–6.VI.2005, D. Lopatin — 1♂ (SZMN). *Krasnoyarsk*: 70 km NW of Krasnoyarsk, 14–23.VII.2009, K. Tomkovich — 5♂♂, 1♀ (ZMUM).

**Remarks.** Authors describe *T. genarum* as a species with dark femora and yellow [Gregor et al., 2002] or yellow to dark [Savage, 2003] tibiae. Our material from Siberia (Altay and Krasnoyarsk) has dark femora and dirty-yellow tibiae. Material from the Moscow region has femora slightly darkened but yellow in ground-colour, and tibiae yellow. Specimens from the Caucasus Mountains have both femora and tibiae pure yellow. Specimens from Altay, Krasnodar and Komi usually have several ventral setulae on vein R1, and in specimens from Moscow only a single such seta is usually present, but this seta is always absent in Caucasus specimens.

#### *Thricops hirtulus* (Zetterstedt, 1838)

Lundström, Frey, 1913: 16 (European Russia, det. Stein, as *T. subrostrata* (Zetterstedt)).

Schnabl in Becker et al., 1915: 49 (Tobol'skaya guberniya [now Nenets AO], Yugorskiy peninsula, Kara district, tundra, as *T. aculeipes* (Zetterstedt)) (misidentification teste Hennig, 1962: 635) and as *T. subrostrata*.

Zimin, El'berg, 1970: 571 (N European Russia, NW Siberia).  
 Pont, 1986: 66 (N European Russia, West Siberia).

Malozemov, 1992: 92 (Pripolar Urals, Neroika), 1997: 77 (Ural Mts).  
 Savage, 2003: 68.

**Material. Europe:** *Komi*: Polar Ural, env. Neroika, mountain tundra, 850 m asl, 06–15.VII.1990, A. Malozemov — 1♂, 1♀ (ZIN). *Nenets AO*: 60 km N of Narjan-Mar, tundra, 10.VII.2008, N. Vikhrev — 1♂ (ZMUM). **Asia:** *Altay*: Ust'-Koksa district, 4.VII.2007, O. Kosterin — 1♂ (ZMUM); Zhumaly river, Rodonovy spring, 2410 m, 49°27' N, 88°03' E, 24.VI.2005, 23.VII.2006, V. Sorokina — 2♂♂, 2♀♀ (SZMN); Ulkok plateau, env. Muzdy-Bulak lake, 2600–2900 m, 49°17' N, 87°39' E, 1.VII.2005, V. Sorokina — 26♂♂, 7♀♀ (SZMN); 6–8 km NE Maitobe mountain, 2400–2800 m, 49°34' N, 87°43' E, 6, 8, 10.VII.2006, V. Sorokina, T. Novgorodova — 41♂♂, 28♀♀ (SZMN, OUMNH); env. Kal'dzhin-Kul'-Bas lake, 2400–2600 m, 49°19' N, 87°26' E, 17–21.VII.2006, V. Sorokina, T. Novgorodova — 52♂♂, 14♀♀ (SZMN, OUMNH); Tara river, 2175 m, 49°39' N, 88°13' E, 30.VI.2006, V. Sorokina — 1♂, 1♀ (SZMN); Ulagan district, env. Dzhulukul' lake, 2200 m, 50°28' N, 89°46' E, 21.VII.2007, V. Sorokina — 2♂♂, 7♀♀ (SZMN); Shapshal'skiy mt. range, 2878 m, 50°32' N, 89°48' E, 23, 24.VII.2007, V. Sorokina — 6♂♂, 4♀♀ (SZMN); Terektskiy mt. range, Bol'shoy Yaloman river, 2200–2300 m, 50°28' N, 86°19' E, 3.VIII.2007, V. Sorokina — 2♂♂ (SZMN). *Chukotka*: Anadyr' district, 62°56' N, 117°03' E, 6–10.VII.2009, P. Tomkovich — 4♂♂ (ZMUM). *Kamchatka*: Dal'niy Sbor, 1, 7.VIII.1967, N. Violovich — 2♂♂ (SZMN). *Yamalo-Nenets AO*: near Labynangi, 6.VI.1973, V. Sychevskaya — 1♀ (ZMUM), Karskaya tundra, 12–25.VII.1909, F. Zaitsev — 1♂, 3♀♀ (ZIN).

**Remarks.** In the Respublika Altay area, adults were collected from flowers in high-mountain tundra.

*Thricops innocuus* (Zetterstedt, 1838)

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*).  
 Hennig, 1962: 641 (Leningradskaya Oblast', Urals).  
 Zimin, El'berg, 1970: 571 (NW European Russia, Urals).  
 Pont, 1986: 67 (N European Russia, Urals).  
 Malozemov, 1997: 77 (Ural Mts).  
 Savage, 2003: 72.  
 Sorokina, 2006a: 224 (Novosibirskaya Oblast').

**Material.** *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 1♂ (ZMUM). *Komi*: Polar Ural, env. Neroika, 500 m asl, 15.VII.1990, Malozemov — 1♂ (ZIN). *Nenets AO*: around Narjan-Mar, forest-tundra and tundra, 8–11.VII.2008, N. Vikhrev — 6♂♂ (ZMUM). *St Petersburg*: env. St Petersburg, 12.VI–03.VII.1931–32, A. Stackelberg — 21♂♂ (ZIN). **Asia:** *Altay*: Kosh-Agach district, Yuzhno-Chuiskii mt. range, valley of Tara river, 2175–2600 m, 49°39' N, 88°13' E, 1–4.VII.2006, V. Sorokina, T. Novgorodova — 12♂♂, 24♀♀ (SZMN, OUMNH); Ukok plateau, 19 km SE Dzhazator, 2115 m, 49°37' N, 87°39' E, 5.VII.2006, V. Sorokina — 1♀ (SZMN); 6–8 km NE Maitobe mountain, 2400–2700 m, 49°34' N, 87°43' E, 6, 8.VII.2006, V. Sorokina — 2♂♂ (SZMN); Shebalino district, Pass Seminskiy, 1748 m, 51,05° N, 85,62° E, 30.VI.2009, A.C. Pont — 2♂♂, 1♀ (OUMNH); River Sarlyk, 1252 m, 51,12° N, 85,60° E, 30.VI.2009, A.C. Pont — 1♀ (OUMNH). *Krasnoyarsk*: Snezhnegorsk, Khantaika river, 2.VIII.1965, A. Mirzaeva — 1♂ (SZMN). *Novosibirsk*: Kolyvan' district, Chernyi mys, 16.VI.1991, A. Barkalov — 1♀ (SZMN). *Yamalo-Nenets AO*: near Labytnangi, 11–22.VIII.1973, V. Sychevskaya — 1♂, 1♀ (ZMUM); Priural'sk, Son' river, 8.VIII.1968, 1♂, 1♀ (SZMN).

*Thricops lividiventris* (Zetterstedt, 1845)

Zimin, El'berg, 1970: 574 (N and NW European Russia).  
 Pont, 1986: 67 (N European Russia).  
 Malozemov, 1992: 92, 93 (Pripolar Urals, Neroika mountains), 1997: 77 (Ural Mts).  
 Savage, 2003: 77.  
 Sorokina, 2006a: 224 (Novosibirskaya Oblast').

**Material.** **Europe:** *Komi*: Polar Ural, env. Neroika, tundra, 500 m asl, 6–9.IX.1990, A. Malozemov — 2♀♀ (ZIN). *Krasnodar*: Adygeya, Lagonaki plateau, 1830 m asl, 20–23.VIII.2009, K. Tomkovich — 6♂♂ (ZMUM). *Moscow*: Dmitrov district, 16–21.VIII.2007, N. Vikhrev — 3♂♂ (ZMUM). *Murmansk*: Laplandskiy Nat. Res., 17–22.VII.1975, V. Sychevskaya — 1♂, 3♀♀ (ZMUM). **Asia:** *Novosibirsk*: Novosibirsk, 18.IX.2005, V. Sorokina — 1♀ (SZMN).

**Remarks.** Uncommon, a late summer-autumn species. Adults were collected in sunny places in a park (Novosibirsk) or on a forest edge (Moscow).

*Thricops longipes* (Zetterstedt, 1845)

Lundström, Frey, 1913: 16 (NW European Russia, det. Stein). Frey, 1918: 19 (Archangelsk).  
 Hennig, 1962: 643 (Caucasus, Urals, Tomskaya Oblast', Altay).  
 Zimin, El'berg, 1970: 573 (N NW European Russia, Caucasus, Urals, West Siberia, Altay).  
 Lavčiev, 1971: 219 (Archangel'skaya and Leningradskaya Oblast', Lake Baikal).  
 Pont, 1986: 67 (N European Russia, Caucasus, Urals, Siberia).  
 Schnabl, 1887: 362 (Lake Baikal, type-locality of *T. baikalis* (Schnabl)).  
 Malozemov, 1997: 77 (Ural Mts).  
 Savage, 2003: 82.

**Material.** **Europe:** *Arkhangelsk*: Onezhsky district, on *Angelica archangelica*, 08.VII.1973, A. Shpijakin — 2♂♂ (ZMUM). *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008,

K. Tomkovich — 2♂♂ (ZMUM). *Karachay-Cherkessia*: env. Teberda, Teberdinsky Nat. Res., 2000–2500 m asl, 01–23.VII.1982, E. Narchuk — 4♂♂, 3♀♀ (ZIN). *Krasnodar*: Adygeya, Lagonaki plateau, 11–12.VII.2008, O. Kosterin — 5♂♂, 1♀ (ZMUM), 1830 m asl, 20–23.VIII.2009, K. Tomkovich — 3♀♀ (ZMUM). *Moscow*: Golitsino, 05.VI.1982, A. Shatalkin — 1♂ (ZMUM). *Murmansk*: Laplandskiy Nat. Res., 19.VII.1975, V. Sychevskaya — 1♀ (ZMUM). *Novgorod*: Vop' river, 30.VI.1917, A. Stackelberg — 1♂ (ZIN). *St Petersburg*: Elagino, 15.VI.1932, B. Rodendorf — 2♂♂ (ZMUM), env. St Petersburg, 04.VI–22.VII.1925–60, A. Stackelberg — 21♂♂, 1♀ (ZIN). **Asia:** *Altay*: Tayzas river 1987, Yu. Vagner — 7♂♂, 2♀♀ (ZIN); Ust'-Koks district, 25.VI.2008, O. Kosterin — 1♀ (ZMUM); Ulagan district, Ioldu river, 2000 m, 50°50' N, 88°57' E, 18.VI.2005, V. Sorokina — 1♂ (SZMN); Kosh-Agach district, Yuzhno-Chuiskii mt. range, valley of Tara river, 49°39' N, 88°13' E, 2175–2200 m, 1–4.VII.06, V. Sorokina — 19♂♂, 26♀♀ (SZMN, OUMNH); Ukok plateau, env. Kal'dzhin-Kul'-Bas lake, 2450 m, 49°19' N, 87°26' E, 21.VII.2006, V. Sorokina — 1♀ (SZMN); Terektskii mt. range, Bol'shoi Yaloman river, 1700–2300 m, 50°28' N, 86°19' E, 3, 4.VIII.2007, V. Sorokina — 2♂♂, 4♀♀ (SZMN); Shebalinskii district, 2 km SE Pass Verh-Kukuya, 842 m, 51,41° N, 85,42° E, 26.VI.2009, A.C. Pont — 2♂♂, 1♀ (OUMNH); Pass Seminskiy, 1748 m, 51,05° N, 85,62° E, 30.VI.2009, A.C. Pont — 6♂♂, 9♀♀ (SZMN, BMNH, OUMNH). *Krasnoyarsk*: Snezhnogorsk, Khantaika river, 2.VII.1965, A. Mirzaeva — 1♀ (SZMN); 70 km NW of Krasnoyarsk, 14–23.VII.2009, K. Tomkovich — 9♂♂, 4♀♀ (ZMUM). *Novosibirsk*: 40 km NE Novosibirsk, 29.VI–2.VII.1984, Teplishchev — 4♂♂, 6♀♀ (SZMN). *Tomsk*: env. Tomsk, Kunsuk River, 10.VII.1897, Yu. Vagner — 1♂ (ZIN). *Yamalo-Nenets AO*: near Labytnangi, 6.VII.1973–04, V. Sychevskaya — 1♀ (ZMUM); 141 km of the road Seida – Labytnangi, tundra, 14.VIII.1995, I. Lyubechanskii — 1♀ (SZMN).

**Remarks.** According to material collected over several years in the Leningradskaya Oblast' by A. Stackelberg, the adults of *T. longipes* appear and disappear about 3 weeks earlier than the closely-related *T. nigriabdominalis*.

*Thricops nigriabdominalis* Savage, 2003

**Material.** **Europe:** *Karachay-Cherkessia*: env. Teberda, 1800–2000 m asl, 20–29.VI.1982, E. Narchuk — 4♂♂ (ZIN). *Krasnodar*: Sochi district, Psekhako Mt. 2000 m asl, 43,69° N, 40,37° E, 14–18.VI.2008, K. Tomkovich — 4♂♂ (ZMUM); Adygeya, Lagonaki plateau, 44,093° N, 40,019° E, 1725 m asl, *Abies* forest, 26–28.VI.2009, K. Tomkovich — 3♂♂, 4♀♀, upper forest margin, 44,053° N, 40,016° E, 1830 m asl, 20–23.VIII.2009, K. Tomkovich — 3♂♂ (ZMUM).

**Remarks.** *T. nigriabdominalis* was described [Savage, 2003] from a very limited material (2 males) from Turkey. Our material consists of 14 males collected from 1700 to 2000 m asl. (3 males collected in the Caucasus from 1300 to 1450 m asl. belong to typical *T. semicinereus* (Wiedemann)).

All our specimens of *T. nigriabdominalis* have abdomen more brownish than in *T. semicinereus*, without the typical contrasting yellow and brown pattern of that species, but the colour varies widely from yellow-brownish to brown with a dark brown apex. The *av* (*a-av*) setae on hind femora are reduced, but this seems to be a diagnostic character of limited reliability. We offer the following key couplet to separate males of these species:

1(2) Disc of scutum in strictly posterior view shining black, almost undusted<sup>1</sup>. 1 or 2 out of 3–4 *pv* preapical setae on hind femur scale-like, thicker (but shorter) than *av* preapicals. Abdomen not contrasting yellow and brown, but yellow-brown to brown with a dark brown apex.

<sup>1</sup> The dusting of the scutum was mentioned by Savage in her description, but was not included in the diagnosis. Females of *T. nigriabdominalis* were determined by association with males and by leg colour: hind tibia yellow, the remaining tibiae and femora dirty yellow in ground-colour, with more or less developed grey dusting.

Additional characters: tibiae usually from obscurely yellowish to yellow, especially the hind one; male hind femur usually with only 2–4 strong *av* setae, restricted to apical part; *av* setae on *t3* 1.5–2 times as long as *ad* setae on *t3* ..... *T. nigriabdominalis*  
 2(1) Disc of scutum in strictly posterior view evenly (though thinly) grey dusted. All *pv* preapical setae on hind femur normal, less strong than *av* preapicals. Abdomen contrasting yellow and brown.  
 Additional characters: tibiae black, at most obscurely brownish; male hind femur usually with strong *av* (*a-av*) setae developed in apical 1/3 to apical 2/3; *av* setae on *t3* less than 1.5 times as long as *ad* setae on *t3* ..... *T. semicinereus*

*Thricops nigrifrons* (Robineau-Desvoidy, 1830)

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*, as *T. variabilis* Fallén).  
 Hennig, 1962: 645 (Leningradskaya Oblast', Urals, Tomskaya Oblast').  
 Zimin, El'berg, 1970: 573 (NW European Russia, Urals, West Siberia).  
 Lavčiev, 1971: 219 (Permskaya and Leningradskaya Oblast').  
 Pont, 1986: 67 (N European Russia, Caucasus, Urals, West Siberia).  
 Malozemov, 1997: 77 (Ural Mts).  
 Savage, 2003: 89.

**Material.** Europe: *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 4♂♂ (ZMUM). *Moscow*: Dmitrov district, 09.VI–30.VII.2007–09, N. Vikhrev — 41♂♂, 8♀♀ (ZMUM). *St Petersburg*: env. St Petersburg, 23.VI–12.VIII.1931–68, A. Stackelberg — 180♂♂ (ZIN). *Vladimir*: near Vladimir, 15.VIII.2009, N. Vikhrev — 1♀ (ZMUM). *Yaroslavl*: Seliger Lake, 27.VIII.1977, V. Sychevskaya — 2♀♀ (ZMUM). Asia: *Altay*: Turochak district, Artybash, 550 m, 51,87° N, 87,18° E, 20–23.VI.2009, A.C. Pont — 3♂♂ (OUMNH, BMNH); Shebalino district, 2 km SE Pass Verh-Kukuya, 842 m, 51,41° N, 85,42° E, 26.VI.2009, A.C. Pont — 3♂♂ (OUMNH, SZMN), Aktel river, 614 m , 51,51° N, 85,61° E, 29.VI.2009, A.C. Pont — 2♂♂, 1♀ (OUMNH). *Krasnoyarsk*: near Krasnoyarsk, 14–28.VII.2009, K. Tomkovich — 16♂♂, 10♀♀ (ZMUM). *Novosibirsk*: Toguchin district, 4 km NE Otgona, 21.VI.2007, V. Sorokina — 8♂♂, 1♀ (SZMN). *Tomsk*: env. Tomsk, Kunsuk river, 10.VII.1897, Yu. Vagner — 11♂♂ (ZIN).

**Remarks.** A common species in temperate areas, it prefers forest edges or even isolated trees. Females usually feed on Umbelliferae (*Angelica archangelica*) until late August.

*Thricops nigritellus* (Zetterstedt, 1838)

Fedtschenko, 1891: 199 (Vologodskaya Oblast', Treporevo). Lundström, Frey, 1913: 16 (European Russia, det. Stein). Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*). Hennig, 1962: 646 (Leningradskaya and Archangel'skaya Oblast', Caucasus, Urals, Tomskaya Oblast'). Zimin, El'berg, 1970: 571 (N European Russia, Caucasus, Urals, West Siberia). Lobanov, 1977: 48 (European Russian, Ivanovo). Pont, 1986: 68 (N European Russia, Caucasus, Urals, West Siberia). Malozemov, 1992: 93 (Pripolar Urals, Neroika), 1997: 77 (Ural Mts). Savage, 2003: 92.

**Material.** Europe: *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 5♂♂ (ZMUM). *Karachay-Cherkessia*: env. Teberda, 2000–2300 m asl, 29.VI–16.VII.1982, E. Narchuk — 10♂♂, 1♀ (ZIN). *Krasnodar*: Adygeya, env. Lagonaki plateau, 11–12.VI.2008, O. Kosterin — 4♂♂, 2♀♀, 26–28.VI.2009, K. Tomkovich — 170♂♂, 3♀♀, 1830 m asl, 20–

23.VIII.2009, K. Tomkovich — 3♀♀ (ZMUM), near Krasnaya Polanya, Khmelevsky Lakes, 10.VII.2008, O. Kosterin — 6♂♂, 2♀♀ (ZMUM). *Murmansk*: Laplandskiy Nat. Res., 24.VII.1975, V. Sychevskaya — 2♀♀ (ZMUM). *Nenets AO*: 60 km N of Narjan-Mar, tundra, 8–11.VII.2008, N. Vikhrev — 10♂♂, 1♀ (ZMUM). *North Ossetia*: near Alagir, 17.VI.1990, A. Ozerov — 1♂ (ZMUM). *St Petersburg*: env. St Petersburg, 05.VI–07.VII.1931–67, A. Stackelberg — 34♂♂, 2♀♀ (ZIN), Yukki, 25.VI.1932, B. Rodendorf — 4♂♂ (ZMUM). Asia: *Altay*: Kosh-Agach district, Yuzhno-Chuiskiy mt. range, valley of Tara river, 49°39' N, 88° 13' E, 2175–2200 m, 1–4.VII.06, V. Sorokina — 16♂♂, 5♀♀ (SZMN, OUMNH); Ulkok plateau, 19 km SE Dzhazator, 2115 m, 49°37' N, 87°39' E, 5.VII.06, V. Sorokina — 1♂ (SZMN); Ulagan district, Shapshal'skiy mt. range, 2878 m, 50°32' N, 89°48' E, 23, 24.VII.2007, V. Sorokina — 1♂ (SZMN); Terektskiy mt. range, Bol'shoy Yaloman river, 2200–2300 m, 50°28' N, 86°19' E, 3.VIII.2007, V. Sorokina — 16♂♂ (SZMN); Seminsky Pass, 1748 m, 51,05° N, 85,62° E, 30.VI.2009, A.C. Pont — 4♂♂, 1♀ (OUMNH, SZMN), Sarlyk river, 1252 m, 51,12° N, 85,60° E, 30.VI.2009, A.C. Pont — 1♂ (OUMNH). *Kemerovo*: Kuznetskiy Alatau Nat. Reserve, Rybnoe lake, 2–6.VI.2005, D. Lopatin — 1♂, 52♀♀ (SZMN). *Krasnoyarsk*: 70 km NW of Krasnoyarsk, 14–23.VII.2009, K. Tomkovich — 36♂♂, 5♀♀ (ZMUM). *Tomsk*: env. Tomsk, Kunsuk river, 10.VII.1897, Yu. Vagner — 11♂♂ (ZIN). *Yamalo-Nenets AO*: env. Priural'sk, Son' river, 8.VIII.1968 — 1♂, 1♀ (SZMN).

**Remarks.** *T. nigritellus* is common in the north, from coniferous forests (taiga) to tundra, and in mountain areas from the upper forest limits to alpine meadows.

*T. nigritellus* material from the Caucasus differs from typical «north» *T. nigritellus* by having only weak, fine and poorly visible setulae on katepimeron.

*Thricops rostratus* (Meade, 1882)

Zimin, El'berg, 1970: 571 (North European Russia). Malozemov, 1997: 77 (Ural Mts). Pont, 1986: 68 (N European Russia, Urals). Savage, 2003: 96.

**Material.** Europe: *Komi*: Polar Ural, env. Neroika, mountain tundra, 700 m asl, 6–17.VIII.1990, A. Malozemov — 2♀♀ (ZIN).

*Thricops rufisquamus* (Schnabl, 1915)

Schnabl in Becker et al., 1915: 45 (Sverdlovskaya Oblast', type-locality).

Tiensuu, 1934: 112 (Respublika Karelia, Sortavala, as *T. penicillatus* Ringdahl).

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*, as *T. penicillatus* Ringdahl).

Hennig, 1962: 660 (Urals, Tomskaya Oblast').

Zimin, El'berg, 1970: 574 (NW European Russia, North Urals, West Siberia).

Pont, 1986: 68 (N European Russia, West Siberia).

Savage, 2003: 102.

**Material.** Europe: *Moscow*: Dmitrov district, 10.VI.2009, N. Vikhrev — 1♂ (ZMUM). Asia: *Altay*: Turochak district, Artybash, 545 m, 51°05' N, 87°09' N, 13.VI.1990, A. Barkalov — 1♂, 21.06.2009, V. Sorokina — 1♂, 1♀ (SZMN); 19 km SW Artybash, 1600–1650 m, 13, 15.VII.1991, A. Barkalov — 3♂♂ (SZMN). *Krasnoyarsk*: 70 km NW of Krasnoyarsk, 14–23.VII.2009, K. Tomkovich — 1♀ (ZMUM). *Tomsk*: env. Tomsk, Kunsuk River, 10.VII.1897, Yu. Vagner — 1♀ (ZIN).

*Thricops semicinereus* (Wiedemann, 1817)

Fedtschenko, 1891: 199 (Vologodskaya Oblast', Treporevo).

Tiensuu, 1936: 165 (Respublika Karelia, Sortavala, on *Salix phyllicifolia* infested with *Chaitophorus vitellinae*).

Hennig, 1962: 649 (Leningradskaya Oblast', Khar'kov, Orenburg, Urals).

Lobanov, 1966: 56 (Ivanovo).

Veselkin, 1966: 784, 788 (Tyumenskaya Oblast').

Zimin, El'berg, 1970: 571 (NW European Russia, SE Caucasus, Urals).  
 Lobanov, 1977: 48 (Potential fertility; probably Russian CET).  
 Sychevskaya, 1978: 83 (Respublika Altay, Cheketaman Pass).  
 Pont, 1986: 68 (N European Russia, West Siberia).  
 Malozemov, 1997: 77 (Ural Mts).  
 Savage, 2003: 104.  
 Sorokina, 2006a: 224 (Kurganskay and Novosibirskaya Oblast'), 2006b: 138 (Respublika Altay).

**Material.** Europe: *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 1♂ (ZMUM). *Karachay-Cherkessia*: env. Teberda, 1300 m asl., 22.VI–05.VII.1982, E. Narchuk — 2♂♂ (ZIN). *Krasnodar*: Adygeya, env. Lagonaki plateau, 44,11° N, 40,02° E, 1450 m asl., 15–17.VI.2009, K. Tomkovich — 1♂, (ZMUM). *Kursk*: Centr. Chernozemn. Nat. Res., 26.V–20.VI.2008, N. Vikhrev — 3♂♂, 1♀ (ZMUM). *Moscow*: 31.V–04.VIII.2007–09, 18♂♂, 18♀♀, several collectors. *Nenets AO*: Narjan-Mar, forest-tundra, 8.VII.2008, N. Vikhrev — 1♀ (ZMUM). *Nizhny Novgorod*: near Dzerzhinsk, 16.VII.2009, N. Vikhrev — 1♀ (ZMUM). *St Petersburg*: env. Ukkla, 18.VI–05.VIII.1931, A. Stackelberg — 14♂♂, 4♀♀ (ZIN). *Tver*: Centr. Lesnoy Nat. Res., 20.VII.1978, V. Kovalev — 1♂ (ZMUM). Asia: *Altay*: Ust'-Koksa district, 25.VI.2007, O. Kosterin — 4♂♂ (ZMUM); Turochak district, Artybash, 545 m, 51°05' N, 87°09' N, 10.IX.2005, V. Sorokina — 2♀♀, 20.06.2009, A.C. Pont — 1♂ (OUMNH, SZMN); Terektskiy mt. range, Bol'shoy Yaloman river, 955 m, 50°28' N, 86°19' E, 4.VIII.2007, V. Sorokina — 1♀ (SZMN). *Krasnoyarsk*: near Krasnoyarsk, 14–28.VII.2009, K. Tomkovich — 8♂♂, 3♀♀ (ZMUM). *Kurgan*: Ketovo district, Tobol river, 4, 20–30.VII.1989, N. Utkin — 7♀♀, 2 km SW Temlyakovo, 10.VI.2006, V. Sorokina — 11♂♂, 1♀ (SZMN). *Novosibirsk*: Novosibirsk, botanical gardens, 15.VI.2008, V. Sorokina — 6♂♂, 4♀♀ (SZMN), near Novosibirsk, 14–24.VI.2009, O. Kosterin — 3♂♂, 1♀ (ZMUM); 40 km NE Novosibirsk, 1.VII.1981, Teplichchev — 1♂ (SZMN); Zdvinsk district, Kargat river, 5.VII.1990, A. Barkalov — 1♂ (SZMN); Kolyvan' district, Chernyi Mys, 16.VI.1991, A. Barkalov — 2♂♂ (SZMN); Karasuk district, 12 km NW Troizkoe, 11–14.VI.2005, Yu. Yurchenko, O. Belevich — 2♂♂ (SZMN); Toguchin district, 4 km NW Otgonka, 21.VI.2007, V. Sorokina — 7♂♂, 3♀♀ (SZMN). *Tomsk*: Bakchar, 16.VII.1972, P. Polyakova — 2♀♀ (ZMUM).

**Remarks.** The most common species of *Thricops*, found in any forested area from the forest-tundra in the north to forest-steppe in the south. Males swarm in the first part of the summer, whilst females may also be found in the second part of the summer.

#### *Thricops separ* (Zetterstedt, 1845)

Pont, 1986: 69 (N European Russia).  
 Malozemov, 1992: 92 (Pripolar Urals, Neroika mountain), 1997: 77 (Ural Mts).  
 Savage, 2003: 107.

**Material.** Europe: *Murmansk*: Laplandskiy Nat. Res., 24.VII.1975, V. Sychevskaya — 2♂♂, 1♀ (ZMUM).

#### *Thricops septentrionalis* (Stein, 1898)

Ringdahl, 1930: 3 (Kamchatka).  
 Hennig, 1962: 650 (Ringdahl's 3 males from Kamchatka are *Thricops spiniger* Stein).  
 Sychevskaya, 1973: 84 (Petropavlovsk-Kamchatsky).  
 Pont, 1986: 69 (? Far East).

**Material.** Asia: *Cbukotka*: Onemen Bay near Anadyr', 64°42' N, 177°14' E, 1.VIII.2005, P.H. Adler — 1♂ (OUMNH). *Kamchatka*: Commander Islands, Mednyy Isl., 25.VII.1953, S. Marakov — 1♂ (ZMUM).

#### *Thricops simplex* (Wiedemann, 1817)

Tiensuu, 1934: 112 (Respublika Karelia, Sortavalala).  
 Tiensuu, 1936: 165 (Respublika Karelia, Sortavalala, on *Salix phylicifolia* infested with *Chaitophorus vitellinae*).

Hennig, 1962: 662 (Leningradskaya Oblast').  
 Zimin, El'berg, 1970: 573 (NW European Russia).  
 Lobanov, 1977: 48 (Potential fertility; probably Russian CET).  
 Pont, 1986: 69 (N European Russia).  
 Malozemov, 1997: 77 (Ural Mts).  
 Savage, 2003: 113.

**Material.** Europe: *Chelyabinsk*: S Ural, near Zlatoust, 18–24.VII.2008, K. Tomkovich — 1♂ (ZMUM). *Krasnodar*: Adygeya, env. Dakhovskaya, 950 m asl., 26–29.VIII.2009, K. Tomkovich — 2♂♂; env. Adler, Monastyrs', 325 m asl., 26–28.VI.2008, K. Tomkovich — 1♂; near Khosta, Akhun, 27.X.2007, N. Vikhrev — 1♀ (ZMUM). *Kursk*: Centr. Chernozemn. Nat. Res., 12.VIII.2008, N. Vikhrev — 1♀ (ZMUM). *Moscow*: Dmitrov district, 27.VII–12.VIII.2007–09, N. Vikhrev — 10♂♂, 5♀♀ (ZMUM). *Nizhny Novgorod*: near Dzerzhinsk, 18.VIII.2009, N. Vikhrev — 2♀♀ (ZMUM). *St Petersburg*: Luga district, 26.VII–02.VIII.1936, A. Stackelberg — 16♂♂ (ZIN). *Yaroslavl*: Seliger Lake, 25–27.VIII.1976, V. Sychevskaya — 3♀♀ (ZMUM).

**Remarks.** *T. simplex* appears at the end of July. Both males and females are attracted to excrements and carrion.

#### *Thricops spiniger* (Stein, 1904)

Hennig, 1962: 651 (Kamchatka). Hennig [1962: 650] says that Ringdahl's [1930: 3] Kamchatka *T. septentrionalis* (Stein) appears to be *T. spiniger*.

Pont, 1986: 69 (Far East).

Savage, 2003: 116 (Kamchatka Peninsula).

#### *Thricops sudeticus* (Schnabl, 1888)

Stein, 1916: 38 (Lake Onega, Petrozavodsk).

Zimin, El'berg, 1970: 573 (NW European Russia).

Pont, 1986: 69 (N European Russia).

Savage, 2003: 122.

**Material.** Europe: *Krasnodar*: Adygeya, env. Lagonaki plateau, 26–28.VI.2009, K. Tomkovich — 2♀♀, 1830 m asl., 20–23.VIII.2009, K. Tomkovich — 2♀♀; near Krasnaya Polyana, 2000 m asl., 14–18.VI.2009, K. Tomkovich — 4♂♂, Khmelevsky lakes, 10.VII.2009, O. Kosterin — 1♂ (all in ZMUM).

#### *Thricops vaderi* Savage, 2003

**Material.** Europe: *Karachay-Cherkessia*: env. Teberda, Teberdinsky Nat. Res., alpine meadow, 2100–2500 m asl., 13–23.VII.1982, E. Narchuk — 2♂♂, 1♀ (ZIN). *Krasnodar*: Adygeya, Lagonaki plateau, 11–12.VII.2008, O. Kosterin — 12♂♂, 1♀ (ZMUM), 1830 m asl., 20–23.VIII.2009, K. Tomkovich — 6♀♀ (ZMUM).

**Remarks.** This species was known from Georgia and Turkey [Savage, 2003]; a new record for Russia.

#### *Thricops tomkoviči* Vikhrev, sp.n.

Plate III: 1, 2.

**Material.** Holotype: ♂, Russia, Krasnodar region, Adygeya, Lagonaki plateau env., 44,093° N, 40,019° E, 1725 m asl., *Abies* forest, 26–28.VI.2009, leg. K. Tomkovich (ZMUM).

Paratypes: *Krasnodar*: Sochi district, Psekhako Mt. 2000 m asl., 43,69° N, 40,37° E, 14–18.VI.2008, K. Tomkovich — 1♂; Caucasus Nat. Res., plateau Lagonaki, 11–12.VII.2008, O. Kosterin — 1♂, 1♀; Apsheron district, plateau Utjug, silver fir – pine forest, 13.VII.2008, O. Kosterin — 1♂; Adygeya, Lagonaki plateau env.: 44,093° N, 40,019° E, 1725 m asl., *Abies* forest, 26–28.VI.2009, K. Tomkovich — 29♂♂, 19♀♀; Adygeya, Lagonaki plateau, upper forest margin, 44,053° N, 40,016° E, 1830 m asl., 20–23.VIII.2009, K. Tomkovich — 2♀♀; Adygeya, Lagonaki plateau, upper forest margin, 44,074° N, 40,013° E, 1800 m asl., 20–23.VIII.2009, K. Tomkovich — 1♂, 2♀♀; Adygeya, Dakhovskaya env., E slope, *Fagus* forest, 44,220° N, 40,100° E, 950 m asl., K. Tomkovich — 1♀ (ZMUM). *Karachay-Cherkessia*: env. Teberda, ≤1800 m asl., 20.VI.1982, E. Narchuk — 1♀; env. Teberda, Dombay, alpine meadow at 2500 m asl., 01.VII.1982, E. Narchuk — 1♂; env. Teberda, Dombay, meadow at 2250 m asl., 09.VII.1982, E. Narchuk — 1♂, 1♀ (ZIN).

The holotype and paratypes collected in the Krasnodar Kray are deposited in the Zoological Museum of Moscow University (ZMUM); paratypes collected in the Karachay-Cherkessia are deposited in the Zoological Institute, St Petersburg (ZIN).

**Description. Male.** Body length about 7.5 mm, wing length 6.5–7 mm. Ground-colour dark (Plate III: 1).

**Head.** Eyes densely setulose, holoptic, separated by width of anterior ocellus or slightly more. Lower margin of face not projecting. Fronto-orbital plate brownish, parafacial, face and gena yellow-grey dusted, occiput grey. Lower frons with 8 (7–9) inclinate frontals, upper frons with several fine proclinate and reclinate setulae. Antenna black, arista plumose with longest hairs about 1.5 times as long as width of postpedicel. Palpus black, proboscis dusted, labella fleshy.

**Thorax** black with dense yellow-brown dusting. Dusting of scutum variable according to angle of view, so the median vitta along acrostichals is dusted in anterior view but undusted in posterior view. In strictly posterior view, the dusting is more distinct and more constant, and from this angle the scutum and scutellum are evenly dusted, with a pair of less dusted vittae between *dc* and *ia* rows and a less dusted postsutural median vitta mesad of the strong *post ac*. All thoracic setae and ground setulae remarkably long, *ac* 0+4(3), *dc* 2+4, *ia* 2+2, *pprn* 2, *pra* 1 (subequal to posterior *ntp*), *ntp* 2, notopleuron bare on area between anterior and posterior setae, *spal* 2 (posterior one weak), katepisternals 1+3, katepimeron bare, scutellum bare at apex beneath.

**Wings** hyaline, slightly brownish, yellowish at base; veins bare; calypters yellow, haltere brownish-yellow.

**Legs** black, but fore and mid tibiae in distal 2/3 from obscurely reddish to distinctly dirty yellow, and hind tibia in distal 3/4 from dirty yellow to yellow. Hind coxa setulose posterodorsally. *f1* with the usual *pd*, *p* and *pv* rows of setae and with hairs on *p*-surface. *t1* with 2 (1–3) *p*-setae. Fore tarsus on *p*-surface with hairs 1.5 times as long as tarsal width, pulvillus of fore tarsus twice as long as pulvilli on posterior tarsi. *f2*: a comb of 3–4 long and strong setae at base on *p-pv* surface, the apical one the longest, about 2.5 times as long as *f2* width; a row of fine long *pv* on basal 2/3, these setae twice as long as *f2* width; a row of fine long *av* on basal 3/4, these setae 1.5 times as long as *f2* width; row of *a-ad* in basal 3/5 (about as long as *f2* width), preapicals: 2–4 *ad* and 2–3 strong *pd*. *t2* with 3–5 *pd*. Mid tarsomeres 3 and 4 with a row of pale curled *pv* hairs subequal to tarsomeres' width. *f3* distinctly curved, with a complete row of *ad*, a complete row of equally strong and long *av* (twice femoral width), 5–6 preapical *pd*, *v* to *p* surface with fine and long setae (1.5–2 times femoral width). *t3* distinctly curved, with 1 long *pd*, 2(3) *ad*, in middle third with rows of fine long *av* and *pv* and erect setae on *v*-surface; comb of ventral preapicals on *t3* consists of 3–4 long curved setae; apical *pv* absent or at most half as long as *av* apical seta.

**Abdomen** densely dirty-yellow dusted, with undusted median vitta on syntergite 1+2 tergites 3–4. Sternite 1 bare. Male terminalia as in Plate III: 2.

**Female.** Body length 6.5–7 mm, wing length 6.5–7 mm.

Differs from male as follows:

**Head.** Frons slightly broader than eye width, wider anteriorly, frontal vitta black to brown, fronto-orbital plate, parafacial, face and gena yellow dusted. 5 (4–6) inclinate frontal setae, 1 proclinate and 2 reclinate orbital setae, setae on frontal vitta present and strong. Eye with sparse short hairs.

**Thoracic setae and ground setulae shorter.**

**Legs.** *t1* with 1–2 *p*-setae. Pulvilli of fore tarsus as small as pulvilli on posterior tarsi. *f2* without a comb of 3–4

long *p-pv* at base, without a row of long *av*, with a row of fine sparse *pv*, longer in basal half where setae are about as long as femoral width. *t2* with 2 *ad* and 4 *pd*. Mid tarsomeres 3 and 4 without a row of pale curled *pv* hairs. *f3* not curved, with strong *av* setae only in apical half, without long setae on *v* and *p* surfaces. *t3* not curved, with 1 *pd*, 2 strong and 0–1 weaker *ad* and 3 *av*, without a comb of 3–4 curved ventral preapical setae.

**Diagnosis.** See below.

**Etymology.** The new species is named after the collector of the majority of the type series, Konstantin Tomkovich.

### *Thricops dawkinsi* Vikhrev, sp.n.

Plate III: 3.

**Material.** Holotype, ♂, Russia, Krasnodar region, Adygeya, Lagonaki plateau, upper forest margin, 44,074° N, 40,013° E, 1800 m asl., 20–23.VIII.2009, leg. K. Tomkovich (ZMUM).

Paratypes: **Krasnodar:** Adygeya, Lagonaki plateau env.: 44,093° N, 40,019° E, 1725 m asl., *Abies* forest, 26–28.VI.2009, K. Tomkovich — 1♂; Adygeya, Lagonaki plateau, upper forest margin, 44,074° N, 40,013° E, 1800 m asl., 20–23.VIII.2009, K. Tomkovich — 11♂♂, 4♀♀. **North Ossetia:** near Buron, Tseisky canyon, 42,8° N, 44,0° E, 03.VI.1990, A. Ozerov — 1♂, 1♀ (ZMUM). **Karachay-Cherkessia:** env. Teberda, Dombay, meadow, 2250 m asl., 09.VII.1982, E. Narchuk — 3♂♂, 2♀♀ (ZIN).

The holotype and paratypes collected in the Krasnodar Kray and North Ossetia are deposited in the Zoological Museum of Moscow University (ZMUM); paratypes collected in the Karachay-Cherkessia are deposited in the Zoological Institute, St Petersburg (ZIN).

**Description.** Similar, including male genitalia, to *Thricops tomkovichii* sp.n., described above but differing as follows:

Both males and females have all the femora and tibiae entirely yellow (Plate III: 3), at most fore femur slightly darkened (one male paratype). Palpus sometimes yellow in basal part. Male mid tarsomeres 3–4 each with the row of pale *pv* setulae reduced. Fore tarsus with the *p*-hairs not longer than tarsal width. Female postpronotal calli in some specimens obscurely yellowish.

**Etymology.** The new species is named in honour of the Oxford zoologist, Dr. Richard Dawkins.

**Diagnosis.** *T. tomkovichii* sp.n. and *T. dawkinsi* sp.n. are closely related to each other and also to *T. longipes* and *T. nigrifrons* (*nigrifrons* seems absent in the Caucasus). This *nigrifrons* species-group is characterized by: long-plumose arista; dark body; holoptic head; absence of apical spur on *t3* and apical spurs on *t1*; *t2* without *pv* or *v* seta(e); lower margin of face not projecting; 4 *post dc*; unmodified fore tarsomeres; mid tarsomeres 3–4 each with a row of pale *pv* setulae (excl., *T. dawkinsi* sp.n.); the male terminalia are similar.

Hennig [1962], d'Assis-Fonseca [1968], Gregor et al. [2002] and Savage [2003] have given different and often contradictory recommendations on how to separate the widespread *T. nigrifrons* and *T. longipes*. Based on examination of the material listed above, we have constructed the following key for the *T. nigrifrons* species-group, including the two new species:

### Males

1(2) *f2*: with a comb of 3–4 long and strong setae on *p-pv* surface at base; fine setae in *av* and *pv* rows 1.5–2 times as long as *f2* width. Legs at least partly yellowish (tibiae) or both tibiae and femora yellow. In posterior view, disc of scutum densely dusted but with a less dusted postsutural

median vitta between acrostichals. *t3* with a comb of ventral preapicals consisting of 3–4 long curved setae ... 3  
 2(1)f2: without a comb of 3–4 long and strong setae on *p-pv* surface at base; setae in *pv* and *av* rows short, at most as long as femoral width. Legs entirely black. In posterior view, disc of scutum evenly and densely dusted, without median vitta or if with less dusted postsutural median vitta between acrostichals, then partly subshining. *t3* with 1–2 shorter ventral preapical setae ..... 5  
 3(4) Femora black, tibiae more or less darkened basally. Mid tarsomeres 3–4 each with a row of pale *pv* setulae. Fore tarsus on *p*-surface with fine hairs 1.5 times as long as tarsal width ..... *T. tomkovichii* Vikhrev, sp.n.  
 4(3) All femora and tibiae yellow, at most fore femur slightly darkened. Mid tarsomeres 3–4 each with the row of pale *pv* setulae reduced. Fore tarsus with *p*-hairs not longer than tarsals width ..... *T. dawkinsi* Vikhrev, sp.n.  
 5(6) In strictly posterior view, central (between *dc*) postsutural part of scutum densely yellowish-grey dusted, the area between acrostichals without a median vitta. Hind femur with fine hairs on *av* to *pv* surfaces about as long as femoral width. Frons with both pro- and reclinate setulae on upper half. Notopleuron always bare on area between anterior and posterior setae (but hairs on area in front of anterior seta always present). Abdomen with median vitta on tergite 3 inconspicuous, at most with a narrow, less dusted vitta present ..... *T. nigrifrons*  
 6(5) In strictly posterior view, postsutural part of scutum subshining black with only thin greyish dusting, consisting of two vittae restricted to areas between *ac* rows and slightly beyond *dc* rows; undusted median vitta between *ac* rows always present. Hind femur with fine hairs on *av* to *pv* surfaces about twice as long as femoral width. Frons with all setulae on upper half reclinate. Notopleuron usually (75 % specimens) with 1 to several hairs on area between anterior and posterior notopleural setae. Abdomen with a black subshining median vitta on tergite 3 that is distinct on at least anterior 2/3 ..... *T. longipes*

### Females

1(2) Legs partly or entirely yellow ..... 3  
 2(1) Legs entirely black ..... 5  
 3(4) Femora black, tibiae darkened basally ..... *T. tomkovichii* Vikhrev, sp.n.  
 4(3) Femora and tibiae yellow ... *T. dawkinsi* Vikhrev, sp.n.  
 5(6) In posterior view, postsutural part of scutum with the less dusted median vitta narrow in anterior part and usually somewhat irregularly widened in posterior part. Aristal hairs usually longer than width of postpedicel ..... *T. nigrifrons*  
 6(5) In posterior view, postsutural part of scutum with the less dusted median vitta uniformly wide throughout, occupying all area between acrostichal rows ..... *T. longipes*

### Acknowledgements

We are especially grateful to Adrian Pont for his various support, including reviewing this manuscript and giving us information on *Thricops* material from the Oxford University Museum of Natural History and the Natural History Museum, London. We thank Emilia Narchuk and Ludmila Kuznetsova who kindly allowed us access to the Diptera collection of the Zoological Institute, St Petersburg. We thank Oleg Kosterin for his help.

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## Вклейка III ♦ Plate III

**Н.Е. Вихрев, В.С. Сорокина.** С.341—349. Вклейка III: 1—3. *Thricops tomkovichii* Vikhrev, sp.n., ♂, паратип (1—2); *T. dawkinsi* Vikhrev, sp.n., голотип (3). 1, 3 — общий вид; 2 — гениталии, вид сбоку; церкальная пластина; 5 стернит.

**N.E. Vikhrev, V.S. Sorokina.** P.341—349. Plate III: 1—3. *Thricops tomkovichii* Vikhrev, sp.n., ♂, paratype (1—2); *T. dawkinsi* Vikhrev, sp.n., holotype (3). 1, 3 — habitus; 2 — terminalia, lateral view; cercal plate; sternite 5.

**Ю.И. Будашкин, В.В. Дубатолов.** С.351—352. Вклейка III: 4—5. *Eucosma multifasciana* sp.n., голотип (4); *Eucosma luciana* (5). 4 — orig, 5 — по Razowski [2003]. Масштабная линейка — 2 мм.

**Yu.I. Budashkin, V.V. Dubatolov.** P.351—352. Plate III: 4—5. *Eucosma multifasciana* sp.n., holotype (4); *Eucosma luciana* (5). 4 — orig, 5 — by Razowski [2003]. Scale bar 2 mm.

## Вклейка IV ♦ Plate IV

**Р.В. Яковлев.** С.353—361. Вклейка IV. Общий вид древоточцев из Азии (1—22) и Африки (23—34): 1 — *Paracossus furcatus*, голотип, ♀ (BMNH); 2 — *P. parvus*, голотип, ♂ (BMNH); 3 — *P. parvus*, ♀, «S. India, Tamil Nadu, Nil Giri Hills, S slope, 10 km W Kotagiri, 11°23' N; 76°55' E, 900 m, 16.04.1997, leg. Schintlmeister & Siniakov» (MWM); 4 — *P. indradit* sp.n., паратип, ♂, Юньнань, «Yunxian Daxing»; 5 — *P. hainanicus* sp.n., голотип; 6 — *P. griseatus* sp.n., голотип; 7 — *Pygmeocossus simao* sp.n., голотип; 8 — *Catopta grumi* sp.n., голотип; 9 — *Rugigegat radzha* sp.n., голотип; 10 — *R. nigra*, ♂, «Sri Lanka» (BMNH); 11 — *Phragmacossia brahma* sp.n., голотип; 12 — *Ph. dudgeoni*, ♂, «Nepal, Koshi, Taplejung area, Mitlung, 1100 m, 31.03.1996, leg. G. Csorba & S.T. Kovacs» (MWM); 13—14 — *Ph. micromaculata* sp.n., паратип, ♂; 15 — *Azygophleps afghanistanensis*, ♂, Афганистан, «Panjshirtal»; 16—17 — *A. regia*, syntypes (MHUB), ♂ (16) и ♀ (17); 18 — *Phragmataecia laszlo* sp.n., голотип, ♂; 19 — *Ph. annapurna* sp.n., голотип, ♂; 20 — *Ph. dushman* sp.n., голотип, ♂; 21 — *Ph. furia*, syntype, ♂ (BMNH); 22 — *Sansara pallidulae*, голотип, ♂; 23 — *Planctogystia lemur* sp.n., голотип, ♂; 24 — *Afrikanetz inkubu* sp.n., голотип, ♂; 25 — *A. bugvan* sp.n., голотип, ♂; 26 — *A. makumazan* sp.n., голотип, ♂; 27 — *Pseudozeuzera stenlii* sp.n., голотип, ♂; 28 — *P. biatra*, голотип, ♂ (BMNH); 29 — *Azygophleps ganzelkozikmundi* sp.n., голотип, ♂; 30 — *A. melanophele*, голотип, ♂ (BMNH); 31 — *Sinjaeviella elegantissima* sp.n., голотип, ♂; 32—33 — *Aethalopteryx wiltshirei* sp.n., голотип, ♂ (32) и паратип, ♀ (33); 34 — *Aethalopteryx pindarus* (Fawcett, 1916), голотип, ♂ (BMNH).

**R.V. Yakovlev.** P.353—361. Plate IV. Habits of Cossidae from Asia (1—22) and from Africa (23—34): 1 — *Paracossus furcatus*, holotype, ♀ (BMNH); 2 — *P. parvus*, holotype, ♂ (BMNH); 3 — *P. parvus*, ♀, «S. India, Tamil Nadu, Nil Giri Hills, S slope, 10 km W Kotagiri, 11°23' N; 76°55' E, 900 m, 16.04.1997, leg. Schintlmeister & Siniakov» (MWM); 4 — *P. indradit* sp.n., paratype, ♂, Yunnan, «Yunxian Daxing»; 5 — *P. hainanicus* sp.n., holotype; 6 — *P. griseatus* sp.n., holotype; 7 — *Pygmeocossus simao* sp.n., holotype; 8 — *Catopta grumi* sp.n., holotype; 9 — *Rugigegat radzha* sp.n., holotype; 10 — *R. nigra*, ♂, «Sri Lanka» (BMNH); 11 — *Phragmacossia brahma* sp.n., holotype; 12 — *Ph. dudgeoni*, ♂, «Nepal, Koshi, Taplejung area, Mitlung, 1100 m, 31.03.1996, leg. G. Csorba & S.T. Kovacs» (MWM); 13—14 — *Ph. micromaculata* sp.n., paratype, ♂; 15 — *Azygophleps afghanistanensis*, ♂, Afghanistan, «Panjshirtal»; 16—17 — *A. regia*, syntypes (MHUB), ♂ (16) and ♀ (17); 18 — *Phragmataecia laszlo* sp.n., holotype, ♂; 19 — *Ph. annapurna* sp.n., holotype, ♂; 20 — *Ph. dushman* sp.n., holotype, ♂; 21 — *Ph. furia*, syntype, ♂ (BMNH); 22 — *Sansara pallidulae*, holotype, ♂; 23 — *Planctogystia lemur* sp.n., holotype, ♂; 24 — *Afrikanetz inkubu* sp.n., holotype, ♂; 25 — *A. bugvan* sp.n., holotype, ♂; 26 — *A. makumazan* sp.n., holotype, ♂; 27 — *Pseudozeuzera stenlii* sp.n., holotype, ♂; 28 — *P. biatra*, holotype, ♂ (BMNH); 29 — *Azygophleps ganzelkozikmundi* sp.n., holotype, ♂; 30 — *A. melanophele*, holotype, ♂ (BMNH); 31 — *Sinjalaeviella elegantissima* sp.n., holotype, ♂; 32—33 — *Aethalopteryx wiltshirei* sp.n., holotype, ♂ (32) and paratype, ♀ (33); 34 — *Aethalopteryx pindarus* (Fawcett, 1916), holotype, ♂ (BMNH).

